

Clmpto 02/08/02

Claims 1-50 has been cancelled

51. A method of producing a single chain antibody comprising a first and second domain comprising the steps of:

- (a) joining a nucleic acid encoding the first domain of the polypeptide to a nucleic acid encoding a first part of a linker to produce a first nucleic acid construct;
- (b) joining the nucleic acid encoding a second part of the linker to a nucleic acid encoding the second domain of the polypeptide to produce a second nucleic acid construct;
- (c) incorporating said first and said second constructs into a transient plant expression vector in frame so that, when expressed, the polypeptide bears the first and second domain separated by the linker;
- (d) transfecting a plant with the vector so that the plant transiently produces the polypeptide; and
- (e) recovering the polypeptide as a soluble, correctly-folded protein.

52. The method of claim 51, wherein the first domain of said single chain antibody is the Ig V_H domain and the second domain is the Ig V_L domain, both of which domains create an idiotype of a surface Ig of a B cell lymphoma, and wherein said product induces an idiotype-specific response directed to said lymphoma upon administration to a subject.

53. The method of claim 52 wherein the plant is a plant cell.

--54. The method of claim 51 wherein said domains are linked by an amino acid linker that:

- (a) has between one and about 50 residues;
- (b) consists of between one and 12 different amino acids, and
- (c) facilitates secretion and correct folding of said polypeptide to mimic the tumor epitope in its native form in or on said tumor cell.

55. The method of claim 54 wherein the linker is a member of a randomized library of linkers that vary in size and sequence, and said library is encoded by nucleic acid sequences

consisting of a repeated pattern of degenerate repeated triplet nucleotides having the following requirements:

- (i) position 1 of each repeated triplet cannot be the same nucleotide as position 2 of the repeated triplet;
- (ii) position 2 of each repeated triplet cannot be the same nucleotide as position 3 of the repeated triplet; or
- (iii) position 1 of each repeated triplet cannot be the same nucleotide as position 3 of the repeated triplet.

56. The method of claim 55, wherein the nucleotide in the first and second positions of each repeated triplet is selected from any two of deoxyadenosine, deoxyguanosine, deoxycytidine or deoxythymidine.

57. The method of claim 56, wherein

- (i) position 1 of each repeated triplet is deoxyadenosine or deoxyguanosine;
- (ii) position 2 of each repeated triplet is deoxycytidine or deoxyguanosine; and
- (iii) position 3 of each repeated triplet is deoxythymidine.--

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